

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1-31. (Cancelled)

32. (Currently amended) A method for multiplexing digital data, ~~wherein~~
including a packet of digital data elements arranged 1..n, the method comprising: is sent
~~in at least~~

sending a first stream of data elements starting with sending data element 1 of
the packet and further proceeding upward in sequential order; ~~and~~

sending a second stream of data elements starting with sending data element n
of the packet and going proceeding downward in sequential order;[[,]] and

terminating the sending steps of the first and second streams of data elements
when the entire packet is has been sent ~~once~~.

33. (Previously presented) The method according to claim 32, wherein the first stream and second stream are simultaneously sent.

34. (Previously presented) The method according to claim 32, wherein a first device sends the first stream of data elements to a third device, and a second device sends the second stream of data elements to the third device.

35. (Currently amended) The method according to claim 34, wherein the third device places the data elements in a data buffer the size of the packet, and sends a signal to the first and second device devices when either the buffer is full, ~~or stops sending confirmations until the buffer is full.~~

36. (Previously presented) The method according to claim 32, wherein a first device sends the first stream to a second device, and the second stream to a third device.

37. (Previously presented) The method according to claim 36, wherein the second device and third device immediately at receipt forward the data they received from the first device to each other.

38. (Currently amended) The method according to claim 37, wherein the second and third device have been provided with a data buffer the size of the packet, wherein the received data are placed in the data buffer and the first second and ~~second~~ third device devices send a signal to the first device when the respective data buffer is full.

39. (Currently Amended) A method for sending a data packet of digital data elements arranged 1..n to a first device in an ad-hoc data network of devices provided with a data processing unit, a data buffer and ~~software having~~ receiving routines for receiving data elements from at least two transmitting devices in the data network, the method comprising:

simultaneously sending data elements of the data packet from wherein at least a second device and a third device in the network to the first device, including:

~~simultaneously send data elements together making up said data packet,~~

~~said~~ sending data elements from the second device sending starting from data element 1 of the data packet and ~~further proceeding~~ upward in sequential order; ~~and~~

~~said~~ sending data elements from the third device sending starting from data element n of the data packet and ~~going proceeding~~ downward in sequential order, ~~to said first device;~~ and

~~which first device adds~~ adding together these the data elements sent by the second device and the data elements sent by the third device to form said data packet at the first device.

40. (Currently Amended) The method according to claim 39, wherein the ~~software has~~ devices are further ~~been~~ provided with transmission routines for transmitting data packets, received from the one or more transmitting ~~device or devices~~ in the data network to at least one receiving device that is connected to the data network, independent of the one or more transmitting ~~device or devices~~.

41. (Currently amended) A method for receiving a packet of data elements 1..n which are sent in at least a first stream of data elements sent starting with ~~sending~~ data element 1 of the packet and ~~further proceeding~~ upward in sequential order, and a second stream of data elements sent starting with ~~sending~~ data element n of the packet and ~~going proceeding~~ downward in sequential order, the method comprising:

providing ~~wherein~~ a device ~~provided~~ with a data storage that defines a data buffer in the data storage for n data elements; ~~and~~

receiving ~~receives~~ the first stream of data elements and the second stream of data elements in the data buffer of the data storage; ~~wherein the device subsequently~~

filling ~~fills~~ the data buffer starting at the front of the data buffer and proceeding sequentially upward with the first stream of data elements; and

filling ~~fills~~ the data buffer starting with rear of the data buffer and proceeding sequentially downward with the second stream of data elements.

42. (Currently amended) The method according to claim 41, wherein the device informs ~~the source or sources~~ one or more sources of the streams of data elements when the data buffer is full.

43. (Currently amended) A method for sending a packet of digital data elements 1..n, the method comprising:

creating ~~wherein a device provided with a data storage~~ creates a data buffer in a the data storage device for n digital data elements,

storing ~~stores~~ the digital data elements in sequential order in the data buffer; ~~and~~
sending ~~sends~~ the digital data elements in a first stream starting with data element 1 of the packet and ~~further~~ proceeding upward in sequential order; and

sending a second stream starting with data element n of the packet and ~~going~~ proceeding downward in sequential order.

44. (Currently amended) The method according to claim 43, further comprising:
terminating the sending of the first stream and the second stream wherein the
device stops sending after upon receipt of a signal that a receiving buffer is full.

45. (Currently amended) ~~Software for~~ A computer-readable storage medium
storing a computer program which, when executed by a computer, causes the computer
to perform a method of sending a packet of digital data elements arranged 1,...,n, the
method comprising a first transmission routine for sending a first stream of digital data
elements starting with data element 1 of the packet and ~~further proceeding~~ proceeding upward in
sequential order, and sending a second stream of digital data elements starting with
data element n of the packet and ~~going~~ proceeding downward in sequential order.

46. (Currently amended) ~~Software for~~ A computer-readable storage medium
storing a computer program which, when executed by a computer, causes the computer
to perform a method of receiving a packet of digital data elements arranged 1,...,n, the
method comprising executing a first receiving routine for receiving a first stream of
digital data and a second receiving routine for simultaneously receiving a second
stream of digital data, and executing a first storing routine for storing the first stream of
digital data in a memory starting at the front of the memory and sequentially filling the
memory towards the end, and a second storing routine for storing the second stream of
digital data starting at the end of the memory and filling the memory sequentially
towards the front, and further executing a stop routine for ending the receiving of digital
data when the memory is full or n digital data elements have been received.

47. (Currently amended) An apparatus for sending a packet of digital data elements 1..n, comprising:

a memory for storing the packet of digital data,
a first transmitter for sending a first stream of digital data elements, starting with data element 1 of the packet and ~~further~~ proceeding upward in sequential order, and
a second transmitter for sending a second stream of digital data elements, starting with data element n of the packet and ~~going~~ proceeding downward in sequential order.

48. (Currently amended) An apparatus for receiving a packet of digital data elements, comprising:

a memory for storing the packet of digital data elements,
a first receiver for receiving a first stream of digital data elements of the packet, and storing it the first stream of digital data elements in said memory, starting from the front of the memory and ~~further upward in sequential order~~ proceeding toward the back of the memory, and

a second receiver for receiving a second stream of digital data elements of the packet, and storing it the second stream of digital data elements in said memory, starting from the back of the memory and ~~going downward in sequential order~~ proceeding toward the front of the memory.

49. (Currently amended) ~~Data carrier, provided with software according to one of claims 47 and 48~~ The apparatus of claim 47, wherein the first transmitter and the second transmitter are configured to terminate sending when a signal is received from a receiver.

50. (Currently amended) ~~Device provided with software according to one of claims 47 and 48~~ The apparatus of claim 48, wherein the first receiver and the second receiver are configured to send a signal to a transmitter when the memory is full.